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Land Tenure and PES in Northern Thailand

A case study of Maesa-Kogma Man and Biosphere Reserve



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Acronyms

Department of National Parks, Wildlife and Plant Conservation (DNP)

Highland Research and Training Center (HRTC)

Land Code and Promulgation (LCP)

Ministry of Natural Resources and Environment (MNRE)

Monitoring, Reporting and Verification (MRV)

National Park (NP)

National Reserved Forest (NRF)

Payment for Ecosystem Services (PES)

Plant Variety Protection (PVP)

Regulation of the Prime Minister's Office on the issuance of Community Land Title Deed (RoCLTD)

Resolution on Solution to Land Conflicts in forest area (RoSLC)

Resolution on Watershed Classification (RoWC)

Royal Forest Department (RFD)

Sor Tor Kor Forestland Allotment Program (STK)

Tambon Administrative Organization (TAO)

Wildlife Protection and Preservation (WPP)

Summary

Payment for Ecosystem Services (PES) is a direct approach for environmental conservation whereby service providers receive payments that are conditional on acceptable conservation performance. An enabling legal framework is an essential prerequisite for successful PES implementation. Before drafting new legal instruments, current legal framework should be assessed for potential opportunities and bottlenecks. This policy review therefore aims to analyze the existing policies and legislations that are relevant to PES implementation in Northern Thailand. Based on the analysis, the challenges for PES are identified and policy suggestions are provided in order to facilitate PES implementation in the Maesa-Kogma Man and Biosphere Reserve including its extended area (hereinafter referred to as the “Reserve”).

The review of existing policies and legislations reveals primary challenges for PES implementation in the Reserve, they are: unclear land rights in State-owned land, unclear rights in ecosystem services and return payments, limited policy support to encourage demand for PES and inadequate regulatory and institutional regime for PES. These challenges contribute to uncertainty in financial sustainability, risk of project failure and high transaction costs among buyers and sellers. In light of these challenges, concrete steps to implement the pilot PES project in the interim are offered.

- *The objective of pilot PES* should concentrate on land management practices that affect ecosystem services, in light of unclear rights in ecosystem services and payments for them.
- *Land users with clear and secure rights* in land, such as those households with title deed inside the Reserve, should be identified as PES sellers to avoid potential tenure conflicts.
- *Demand and funding for PES at a pilot scale* should be identified, principally from, but not limited to, donors and public sources.
- *Research on economic valuation of and PES activities’ impacts* on ecosystem services should be conducted to enhance credibility and willingness to pay among potential buyers.
- *Basic regulatory guidelines* governing the pilot project, e.g. performance indicators, terms, type and timing of payment, monitoring, reporting and verification (MRV) procedures, should be clearly specified in the PES agreement.
- *The PES support team* comprising of experts to provide technical support and institutions trustworthy among stakeholders to achieve stakeholder engagement should be formed.

To create an enabling legal framework for long-term PES implementation in the Reserve, policy options for legislative reforms are detailed as the following:

- *Weak tenure security* should be strengthened by introducing a national legislation to formalize communal land-use rights for households and communities without any title document and by accelerating the procedures of upgrading and issuing title deed for households with eligible title documents.
- *Measures to augment private demand for PES* should be introduced, such as providing scientific evidences of PES benefits to ecosystem, raising awareness of business benefits of PES investment and assisting private sector with credible information on the supply of potential PES projects.
- *Specific national PES legislation* should be introduced to establish rights in ecosystem services and return payments for them, to recognize PES as a legitimate instrument and to create regulatory framework needed for PES transaction, funding sources and payment distribution, as well as institutional framework with sufficient institutional coordination and technical and human resources.

Chapter 1 Policy and impacts on stakeholders

This Chapter provides an overview of existing policies and legislations related to rights in land and ecosystem services in the North of Thailand. It also classifies stakeholders in the Reserve into groups and discusses about the impacts of the relevant policies and legislations on the stakeholders.

Northern Thailand has a total area of 169,644 km² with 56% of forest area in 2008 (RFD 2010). The region is primarily mountainous area and has been home to many ethnic minorities. The Reserve is located in Chiang Mai province of the northern region under the jurisdiction of Mae Rim, Muang, Hangdong and Samoeng districts. The Reserve covers 505 km². More than half of the Reserve area overlays a large portion of two national parks (NP) and four national reserved forests (NRF)¹. The Reserve is of hydrological importance. It encompasses the watershed of Sa River, a tributary of Ping River, which has been a major source of water supply for Chiang Mai city. When united with Wang, Yom and Nan rivers, they form Chaophraya watershed, the principal source of water supply in the Central Thailand (UN 2008).

Policy related to rights in land and ecosystem services in Northern Thailand

This Section describes the policies and legislations that have relevance to rights in land and ecosystem services in the North of Thailand. The legal framework discussed in this Section includes a broad array of policies and legislations within and beyond forest sector that explicitly or implicitly defines use, access and management rights in land and ownership rights in ecosystem services as well as in return payments for them. The policies that support PES implementation are also discussed in this Section. The selection of the relevant policies and legislations was based primarily on data obtained via literature review and interviews with representatives from key government organizations in Northern Thailand².

- Forest Act stipulates that any land not acquired by law under the Land Code would be considered as forest (Section 4 Clause 1). The Act limits land use rights of local communities by regulating forest products collection (Chapter 1 Section 29) and by prohibiting the clearing, burning and occupying or possessing any forestland (Chapter 5 Section 54). Contravention of this Section shall be punished (Chapter 6 Section 64 duo).
- Wildlife Protection and Preservation (WPP) Act allows wildlife sanctuaries to be established in any land not acquired by law (Chapter 6 Section 33 Clause 2) and after the demarcation, no person can occupy, possess (Chapter 6 Section 38) or access the land without permission from competent officer (Chapter 6 Section 37). Inside the sanctuary, cutting or clearing trees is prohibited (Chapter 6 Section 38). Violators to Section 38 shall be punished with imprisonment and/or fine (Chapter 8 Section 54). In 2008, the total area of 17,329 km² (10%) of the northern region was declared as wildlife sanctuary, representing 47% of the national wildlife sanctuary area (DNP 2008).

¹ Suthep-Pui and Khun Khan NPs and Doi Suthep, Mae Khan and Mae Wang, Sameong and Ta Chang and Mae Kanin NRFs

² Please see Appendix 1 for the list of interviewees

- National Parks Act specifies that the NP shall be established in any land not acquired by law (Chapter 1 Section 6). Inside the NP, possessing land, clearing or burning the forest, collecting forest products, hunting, husbandry or any activity that may endanger soil, rock, flowers or leaves is not allowed (Chapter 3 Section 16). Violators to the Section shall be punished (Chapter 5 Section 24-27). The Act allows for payments to be collected from the public for the services provided by the Park and such payments shall be used for maintenance expenditure (Chapter 4 Section 23). In 2008, the total area of 23,456 km² (14%) of the northern region was declared as NP, accounting 43% of the nation-wide NP area (DNP 2008).
- National Reserved Forest Act declares that any person having a customary claim over any NRF can file a written application to district or sub-district officials within 90 days after the Act comes into force to receive compensation (Chapter 1 Section 12 and 13). Failing to do so shall be regarded as the renouncement of his/her customary land rights as well as monetary compensation. Inside the NRF, settlement, clearing or burning forests or any activity that would damage the nature is prohibited (Chapter 2 Section 14). Logging and collecting forest products may be done with permission from the Director-General of Department of National Parks, Wildlife and Plant Conservation or DNP (Chapter 2 Section 15 and 16). In 2008, the total area of 111,875 km² (70%) of the northern region was declared as NRF, representing 48% of the total NRF area in the country (DNP 2008).
- Sor Tor Kor (STK) Forestland Allotment Program was implemented in 1981 by the RFD to solve land conflicts in NRF by allocating a usufruct license to households living inside and using degraded land of the NRF for agricultural or residential purpose (Amyot 1998), as stipulated in the NRF Act Chapter 2 Section 16 (RFD 2008). The license provides temporary rights to occupy and use land for up to 30 year. The license is renewable and transferable by inheritance but it can be revoked if the land is left unused for at least two consecutive years (RFD 2008).
- Sor Por Kor Land Reform Program was initiated in 1989 by the Agricultural Land Reform Act and is implemented by Agricultural Land Reform Office. The program aims to distribute land to landless farmers for agricultural purpose. If degraded land inside the NRF is chosen for the Program, the land will automatically be removed from the NRF designation, according to Chapter 3 Section 26 (GoT 1989). Sor Por Kor certificates provide usufruct rights for farming purpose (Chapter 3 Section 39). By 2011, the total area of 11,810 km² in the North of Thailand was allocated to landless farmers by the program (ALRO 2012).
- Resolution on Watershed Classification (RoWC) establishes different categories of watersheds from one to five, based on important features and degree of the watershed. Total forest protection activities shall be conducted in watersheds under Class 1A, where either resource utilization or settlement is allowed, except for local communities that can prove their formal land ownership with historical aerial photos and academic reports showing low environmental impacts of their settlement (DNP 2010). Since 1982, watershed area of Ping, Wang, Yom and Nan rivers of the northern region has been declared as Watershed class 1A (DNP 2010).
- Resolution on Solution to Land Conflicts in forest area (RoSLC) was announced in 1998 to reduce encroachment in State-owned forestlands by registering the households residing or cultivating inside the forestlands (GoT 1998). Only those households, who have settled in the area prior to the demarcation of the area as forest, may be granted permission to continue living in or using the area with no further expansion of land-use area (GoT 1998). However, if the officials consider that the settlement area is potentially harmful to the environment, even if the household can prove of its existence before, it shall be

relocated, similarly to those households found to settle in the area after the demarcation (GoT 1998).

- Community Forest Act was proposed in 1998 by the Assembly of the Poor, Northern Farmers Network, academics and the Northern Community Forest Network (Zurcher 2005). In 2007 the Act passed the National Legislative Assembly with criticisms over Sections that potentially restrain the rights of local communities to use and manage community forests in protected area (BangkokPost 2008). Section 25 limits the eligibility of the participating community, and thereby limiting the rights to access and manage the protected area of about 20,000 communities living outside but along the rims of the protected area countrywide (BangkokPost 2008). Section 34 does not allow logging or agriculture within the protected areas (Weatherby and Soonthornwong 2008). By 2009, the Act effectively lapsed (Scheyvens 2011).
- Regulation of the Prime Minister's Office on the issuance of Community Land Title Deed (RoCLTD) was passed in 2010 to solve land-use conflicts particularly in the protected areas (Erni 2010; PRD 2010; Prasertpholkrang 2011). It allows the local communities to collectively manage and use State-owned forests for a certain period of time but not providing legal recognition for customary land tenure (Erni 2010), because doing so would contradict to the existing legislations. In 2011, two villages were granted with community title deed. One of them is a village in Lumpoon province of Northern Thailand (OPM 2011). As of July 2012, no additional community title deed has been granted (OPM 2012).
- Land Code and Promulgation (LCP) Act stipulates that any person possessing land without title document prior to the enforcement date of this Act may notify the District Chief Officer within 180 days as from the enforcement date in 1954 but such claim for the possession of land shall not establish new rights entitled by the claiming person, according to Section 5 of the Act (GoT 1954). The land not acquired by law shall be regarded as State property (Chapter 1 Section 2). The Director-General of the Department of Lands manages the use of public land by reserving, selling, leasing or allocating for concession for sand, earth or laterite (Chapter 1 Section 8, 9 and 10).
- Plant Variety Protection (PVP) Act provides rights in plant variety to individuals, who develop a new plant variety (Section 32 and 33) and to communities that conserve a local plant variety (Section 47 and 48). The community is entitled to 60% of profits occurred from commercial use of the registered local plant variety (Chapter 4 Section 49). The PVP Fund, as stipulated by the Act, shall be used for conservation activities by the local communities (Chapter 6 Section 55).
- The Tenth National Economic and Development Plan (2007-2011) promotes the rights of local communities to access and manage natural resources and encourages the creation of incentive mechanisms in order to induce local communities to protect natural resources and biodiversity (NESDB 2006).
- The Eleventh National Economic and Development Plan (2012-2016) endorses the use of incentive mechanisms to protect and conserve natural resources and biodiversity, namely REDD+, Clean Development Mechanism and PES (NESDB 2011).
- Constitution of 2007 provides local community with rights to co-manage and to benefit from natural resources and biodiversity, according to Part 12 Section 66 and 67 (GoT 2007). Any project or activity with potential harm to natural resources and biological diversity requires environmental and health impact assessment as well as local public consultation (Part 12 Section 67).
- Draft on Water Resources Act (pending) declares that water belongs to the public domain (Section 6 and 8). The draft features a water permit system for public water resource. To use water for commercial purposes, such as agriculture, husbandry, tourism, electricity

generation, or to use water in great quantity, one needs to pay for a permit from the officials (Section 47 and 48).

Stakeholders in the Reserve

This Section identifies major stakeholders in the Reserve, who are in connection with the implementation of policies and legislations relating to rights in land and ecosystem services. The identified stakeholders comprise of policy implementers and groups that are affected by the policies. This Section contains data that was collected by semi-structured interviews with representatives from key government organizations, private and public organizations and from local leaders of four communities located inside the Reserve (Annex 1), complemented with secondary data.

Policy implementers

The policy implementers refer to government organizations that are authorized to implement and enforce policies and legislations related to rights in land and ecosystem services in the Reserve.

- Department of National Parks, Wildlife and Plant Conservation (DNP) is an agency of the Ministry of Natural Resources and Environment (MNRE) that is charged with overall responsibility for protected areas in Thailand. The regional DNP office of District 16 is in charge of supervision, backstopping and management of the protected areas in Chiang Mai, Lumpoon and Mae Hong Son provinces, including the ones overlapping the Reserve area. Two divisions of the District 16 Office have been principally active in the Reserve:
 - *Watershed Management Division* is in charge of watershed area restoration in accordance with the RoWC. *Watershed Management Unit* rests within the Watershed Management Division. Mae Sa, Pong Krai, Huay Pa Lao and Mae Na Sai Watershed Management Units are responsible for restoration and reforestation of watershed area in the area of study.
 - *National Park Division* has responsibility to formulate policies and plans regarding the use and management of NP. The Divisions of Suthep-Pui NP and Khun Khan NP are highly relevant to the study, as a large part of the Reserve overlays the NPs. *National Park Protection Unit* rests within the NP division and is in charge of patrolling and arresting the violators to the NP Act to be sent to the police.
- Royal Forest Department (RFD) is an MNRE agency that is responsible for all the NRF outside the protected area. The regional RFD office, Forest Management Bureau Number 1, is entrusted with responsibility for supervision, backstopping and management of the NRFs in Chiang Mai province, including the ones overlapping the Reserve area. One division of the Bureau Number 1 has been particularly active in the Reserve, it is:
 - *Forest Protection and Fire Control Division* is in charge of creating local networks for and designing policies for forest protection and fire control. Within this Division, *Forest Protection Unit* is responsible for protecting the NRF by patrolling, arresting and sending the violators to the NRF Act to the police.
- Land office is an agency of Ministry of Interior and is charged with responsibilities for issuing all title documents including the title deed and for upgrading title documents, according to the Land Code and Promulgation Act. Inside the protected area and NRF, the Land Office can issue title deeds only for the land already removed from the NRF or protected area, in agreement with the RFD/DNP. The Reserve falls under the jurisdiction of Hang Dong District, Mae Rim District and Chiang Mai Province Land Offices. Major obstacle to the work of Land Office in forest area are insufficient collaboration with the RFD and DNP and unclear State-owned forest boundary, due to the use of various scale

map among the related organizations and inconsistent forest boundaries drawn by the RFD/DNP over the years.

- Local Government includes the elected councils under the Tambon Administrative Organization (TAO). The TAO is mandated to undertake local environmental planning and management and to develop local infrastructure, according to Chapter 2 Section 23 of the Tambon Council and Tambon Administrative Authority Act (GoT 1994).
- Sub-Committee on Land Encroachment of Chiang Mai is enforced by the Regulation of the Prime Minister's Office on Solutions to State-owned Land Encroachment enacted in 2002 (GoT 2002). It deals with all land encroachment conflicts in the province, including the Reserve, in the case that the Village Headmen and the TAO cannot manage the conflicts locally. The Sub-Committee comprises of Land Office, Agricultural Land Reform Office, Regional Treasury Office, Provincial Attorney Office, RFD Office, DNP Office, Provincial Publicity Office and the Governor.

Groups affected by the policies

The groups affected by the policies include private and public organizations and local communities in the Reserve.

Private and public organization

- Royal Project Foundation was founded in 1969 to promote alternative cash crop production to replace opium and to protect natural resources in highland areas. The Foundation has local offices located nearby hill tribe villages to provide technical support and market access for their produce. By using the Government Gazette, the Foundation's employees in local offices became DNP/RFD officials and are authorized to arrest the violators to the NP and NRF Acts. However, in practice, the Foundation officials have focused only on improving the local livelihoods. The DNP and the RFD granted permission for those villagers joining the Foundation to use land inside the NP and NRF designation.
- Queen Sirikit Botanical Garden was established in 1992, following the Royal Decree on the Establishment of Botanical Garden (GoT 1992) and is maintained under the auspices of the MNRE. The Garden was granted permission from the DNP to use an area of 10.4 km² of the Suthep-Pui NP. Decision-making authority in the use and modification of land and natural resources rests entirely with the Garden Management Board. The Garden uses mountain water supply without paying any fee. The entrance fee collected from tourists is used for the maintenance expenditure of the Garden (GoT 1992). The Garden solved conflicts with local communities by providing them with over 200 jobs and by supporting research and development programs that are beneficial to the local communities.
- Aura Mineral Water Company began its operation in 1995. The Company bottles cold spring mineral water that occurs naturally for sale. The Company has a title deed to the land with the water source and therefore is entitled to use the water in its privately owned land. To avoid local conflicts, the Company has continuously donated bottled water to local public organizations and temples on a monthly basis as well as its neighboring local communities upon request.
- Department of Army Animal was founded in 1971 to support the Royal Project by providing animals to carry seedlings and farming equipment up to the highland areas. The Treasury Department of the Ministry of Finance, who is the landowner, allows the Department of Army Animal to use and manage 5.3 km² of land and natural resources. The Department provides horse-riding services to the public with a fee that will be used for the maintenance expenditure of the Department.

- Doi Suthep Temple was established in 1386 and was declared as ancient remains by the Government Gazette in 1935. The Temple area was removed from the Suthep-Pui NP designation. As of July 2012, the temple remains in an on-going process to ask for an upgrade from Nor Sor 3 to title deed.
- Chiang Mai Night Safari was opened in 2005 with land-use permission of the DNP. By 2012, the Safari is in the process of being removed from the Suthep-Pui NP designation. Permission of the DNP is necessary in order to modify the land and natural resources inside the Safari. Revenue from entrance fee is used for the maintenance expenditure. To solve conflicts with local communities, the Safari has allowed them to sell their local products to tourists inside the Safari without any fee and has granted them with monopoly rights as the sole animal feed provider of the Safari.
- Royal Flora Ratchaphruek was created in 2006 as a horticultural exposition to celebrate the King's 80th Birthday Anniversary, managed by the Highland Research and Development Institute. The Exposition is located inside Suthep-Pui NP area with land-use permission from the DNP. The Exposition is in the process of being removed from the NP area. The entrance fee received is used for the maintenance purpose.
- Highland Research and Training Centre (HRTC) of Chiang Mai University Khun Chang Kien Center (Site A and B) is located inside the Suthep-Pui NP, with land-use permission granted by the DNP. To modify or improve land, permission from the DNP is nonetheless required. Additional to the plantation for cold climate plants, there is a coffee shop and accommodation located in the Site. Revenues from the shop and accommodation fee go to Chiang Mai University.

Local community

In the Reserve area, there are 49 villages, primarily consisting of Thai and Hmong ethnic groups. Local communities in the Reserve are traditionally forest-dependent. Prior to the demarcation of protected area, NRF and watershed class 1A inside the Reserve, local communities largely engaged in slash-and-burn cultivation for growing rice (household consumption) and corn (animal feed) and, in highland communities, planted opium for medicinal use and sale. Other sources of food included forest products and homegrown vegetables. Local communities relied chiefly on the forests for food, medicine, fuel, construction materials and spiritual sustenance.

Due to a combination of support from the United Nations/Thai Program for Drug Abuse Control and the Royal Project since the late 1970s and the demarcation of protected area, NRF and watershed area inside the Reserve, the slash-and-burn and opium cultivation has diminished and is replaced with permanent cultivation for cash crops. By 2012, reliance on forests has significantly reduced due to increased access to markets for food, to hospitals for medicine and to electricity for fuel. Also, local communities can no longer use timber from the forests for constructing houses due to the restrictions on cutting down standing trees in the protected area. For the past decade, a number of local communities inside the Reserve have illustrated their ability to conserve natural resources in form of community forest protection. They therefore can potentially play a significant role in effective natural resource management. The Village Headman plays an important role in decision-making at the village level and links upwards to the Sub-district and District Authorities.

Impacts of policy in the Reserve

This Section describes the impacts of the identified policies and legislations on private and public organizations and local communities in the Reserve. Data on the impacts on private and public organizations was collected via semi-structured interviews with representatives from key organizations in the Reserve. Regarding impacts on local communities, data was

gathered from semi-structured interviews with representatives from sub-district organizations and field study in four villages inside the Reserve: Mae Sa Mai, Mae Sa Noi, Mae Ha Nue and Khun Chang Kien villages. These villages were selected due to their geographical location to represent three different districts inside the Reserve and their land tenure situation to illustrate the present tenure problem inside the Reserve. In each village, in-depth, semi-structured interviews with local leaders and four focus group discussions with six to ten villagers in each group were conducted as means to obtain the data.

Private and public organization

The Land Code and Promulgation Act, NP Act and NRF Act have directly affected the organizations locating inside the Reserve. Some organizations that were established before the enactment of Land Code and Promulgation Act of 1954 claimed for their title document, which can be upgraded to title deed. Other organizations that were founded inside the Reserve after the demarcation of the area as NP or NRF are therefore to comply with the rules and regulations prescribed by the NP or NRF Acts. To use land inside the NP or NRF, permission of the DNP or RFD is necessary and any modification of land and natural resources inside the land in general requires permission from the DNP or RFD as well. To get a title deed for the land inside in NP or NRF, the organizations have to ask for being removed from the NP or NRF designation in accordance with the NP Act and the NRF Act.

Local community

The rights in land and ecosystem services of local communities have been affected primarily by the LCP Act, NP Act, NRF Act, RoWC and RoSLC. Amongst the legislations, the Land Code and Promulgation Act and the NRF Act allowed a short window of opportunity for local communities to make claims for their customary rights to use land. However, in 1954 and 1961 when the Acts were enacted, communication system was poor and many communities residing in the area during that time were not informed of these legal changes to their customary rights in land and natural resources, primarily due to the remote site of their settlements and language barriers. Failing to claim within the allowed period legally implies that the households waived their customary land rights and became illegal encroachers in their lands. Only a few households in the Reserve made claims during the 180 days after the enactment of Land Code and Promulgation Act.

The designation of the protected area, NRF and watershed area that are important for conservation in accordance with the NP Act, the NRF Act and RoWC was initially done based on the topography and geographical characteristics of the land, as shown in the maps. Without taking the existence of local communities into consideration, a large portion of the newly demarcated areas of NP, NRF and watershed Class 1 A henceforth overlaps with customary land of local communities. Following the exclusionary conservation concept that human and nature are not compatible, the rules and regulations prescribed by the Acts and RoWC have been in contradiction with the local communities' traditional livelihoods that are forest-dependent. In combined, this led to conflicts between local communities and the RFD/DNP officials, which later resulted in arbitrary arrests, forced resettlement, terror and violence and was often followed by clearance of forestlands in different area. Such situation had been a commonplace until the RoSLC was announced in 1998. To certain extent, the RoSLC was implemented due to the pressure by the 99-day protest of the hill tribe people including some villages in the Reserve together with Northern Farmers Network and the Assembly of the Poor occurred in 1997.

The RoSLC has helped minimize the conflicts by unofficially allowing the households inside the NP, NRF or watershed class 1A area of the Reserve, who registered themselves at the DNP/RFD offices in accordance with the RoSLC, to continue using their land without the

DNP/RFD interference in agricultural land-use decision-making during the investigation process. Furthermore, in recent years, a number of activities important for local communities' livelihoods became unofficially allowed in many villages inside the Reserve, such as gathering non-timber forest products and fuel wood for household consumption. However, cutting down standing trees and hunting remain prohibited in general, while modifying or building houses in their land remains prohibited only in some villages. Due to the existence of contradicting legal framework, e.g. Forest Act, NP Act and NRF Act, that forbids all of the abovementioned activities and the lack of standardized legal framework identifying acceptable activities, there has been misunderstanding of the unofficially acceptable activities among the households and between the households and the officials, i.e. which activities are allowed and which are not. The misunderstanding often contributes to frustration among the concerned parties.

The unofficial, temporary land use permission granted by the RoSLC is conditional; further expansion of land use area is prohibited. The RoSLC prevents the land use area expansion by measuring each household's present land use boundary via land survey and Global Positioning System and by frequent monitoring of the boundary. If the expansion of land use area is detected, the violator shall be arrested and punished. In light of the growing population, the majority of the villagers interviewed respond to the strict prohibition in the expansion of land use area by investing in education for their children to enable them to live and work in the lowland area instead of land-based, forest-dependent livelihoods like their ancestors.

Chapter 2 Policy implication on PES

This Chapter discusses about the policies and legislations identified in Chapter 1 that enable the establishment of rights in land and ecosystem services in Northern Thailand, in other words, support the basis of PES implementation in the Reserve. Also, this Chapter classifies households and local communities in the Reserve into groups based on their rights in land and ecosystem services.

Establishment of rights in land and ecosystem services in Northern Thailand

Clearly defined rights in land and ecosystem services are important for PES implementation. Additional to the Tenth and Eleventh Plans that promote PES development, this Section discusses about other supportive legal frameworks that implicitly or explicitly establish the rights in land, biodiversity conservation, watershed services and scenic beauty in the North of Thailand.

Rights in land

As a result of LCP Act, there are two types of land tenure in Northern Thailand: private and public land. The privately owned lands offer relatively secure tenure to the owner (Bowman 2004), unlike in the public forestlands. As stipulated by the Forest Act, NP Act, NRF Act, WPP Act and RoWC, the State has absolute ownership of the public forestlands and rights to access, use and manage the area. However, a large part of the protected area, NRF and watershed class 1A has been under cultivation by squatters, who have occupied the area, in some cases, before the demarcation of area as State-owned land. Despite attempts of forced resettlement in the past, in 2005 there were 50,564 households living and using land inside the protected area of the northern region (DNP 2009). There have been on-going conflicts between the State officials and local communities and illegal encroachment in the State-owned forestland in the North (DNP 2009), resulting in the loss of 4,384 km² of forest cover in Ping, Wang, Yom and Nan watershed area by 2012 (Thairath 2012). In Chiang Mai alone, about 20% of public forestland was lost due to encroachment during 1972-2012 (PRD 2012).

On the one hand, such land-use conflicts have eroded tenure security and rights in land of the State, creating difficulties for the State to exercise their rights to exclude incompatible use of land and to enforce related laws in the protected area, NRF and watershed area in the North. On the other hand, the existing legal framework has weakened customary rights in land and natural resources of local communities. Also, the NP Act, the WPP Act, the NRF Act and the RoWC together regulate activities that are crucial for sustaining traditional livelihoods of the local communities, such as clearing land for agriculture, hunting, collection of forest products for food, medicine and fuel. The legislations are to a great extent incompatible with customary tenure arrangement and local livelihood, making it difficult for the local communities to comply with the laws.

Efforts have been made to resolve the conflicts: STK Forestland Allotment Program, Sor Por Kor Agricultural Land Reform Program and RoSLC. While the STK and the Sor Por Kor programs provide usufruct rights to households in NRF area, the RoSLC provides temporary permission to occupy and use land inside the protected area and NRF during the investigation process. Despite some improvement, tenure and rights in public forestlands of

many local communities living inside protected area, NRF or watershed class 1A in the North nonetheless remain insecure.

Rights in biodiversity conservation

There are two existing legislations relevant to the establishment of rights in biodiversity conservation and payments for it. While the PVP Act regulates the rights of plant varieties, the WPP Act governs the rights of animal species in the sanctuaries. The PVP Act establishes rights in local plant variety by providing exclusive rights to local communities that conserve the local plant variety, which exists only in a particular community. The Act allows the right holder to enjoy the economic return, which is a share of profits generated from the commercial use of the plant variety conserved. Due to the rigid definition, the Plant Varieties Protection Division has not been able to identify any local plant variety in Thailand that suits the definition. In combination with limited awareness of the Act, no local community in the North has enjoyed the monetary benefits from conserving local plant variety as stipulated by the Act. For domestic and wild plant varieties, the State is the right holder and profits from commercial use of the variety by other parties shall be paid to the Plant Varieties Protection Fund. The payment structure prescribed by the Act resembles the PES concept, where the user of the plant variety for commercial purpose (buyer) pays the local communities or the State (seller) for conserving and protecting such plant variety (biodiversity conservation service).

The WPP Act regulates that any activity related to animals in the wildlife sanctuaries, such as hunting, gathering, transporting and studying wildlife, requires permission from the Director-General of the RFD. All carcasses confiscated from actions in violation of this Act shall belong to the State. This implies that the State has the rights in wildlife within the sanctuary boundary.

Rights in watershed services

Although a specific legal instrument that clearly establishes the rights in water, watershed or watershed services is lacking, there are relevant legislations indicating the responsibilities and rights of the State over water supply and watershed. The Constitution of 2007 charges the State with responsibility for managing, distributing and conserving water resources. The pending Water Resources Act clearly states that the ownership of water belongs to the State and the use of water for commercial activities is subjected to payment to the State. This structure is similar to PES concept, where the State (the seller) receives payment for water supply (watershed services) from the user of water for commercial purpose (the buyer). Similarly, the actively enforced legislation on watershed, the RoWC, implies that the State has management and exclusion rights in watershed area class 1A. The State is authorized to relocate existing settlements in Watershed Class 1A, which includes major watershed areas in Northern Thailand, if the settlements are found harmful to the environment.

Rights in carbon sequestration

Even without a national law clarifying carbon rights at present, an implication of the LCP Act can lead to the assumption that carbon sequestration services from the trees inside the land should also belong to the landowner. In privately owned land in Thailand, where tenure rights and ownership are to a great extent clear and secure, rights of carbon sequestered by the trees on the land should then belong to the private landowner. Similarly, in public forestlands, according to the Forest Act, NP Act, Wildlife Preservation and Conservation Act and NRF Act, the ownership of the protected and NRF area is still held firmly by the government (Equitech 2010). The carbon credits occurred in public forestlands therefore will most probably be owned and managed by the government (Equitech 2010).

Rights in scenic beauty

Existing legal framework clarifying the nature of the rights in scenic beauty or payments for it remains limited. Only the NP Act prescribes a payment mechanism similar to the PES, but it is applicable only to the NP area. The NP Act allows for fee collection from anyone, who wishes to enjoy the services provided by the park, in other words, the natural features such as landscape of rare scenic beauty that the park protects and preserves. The fees collected shall be managed by the park and used for maintenance expenditure. However, it has been difficult to collect the entrance fee in many NPs in the North due to inadequate financial resources to build checkpoints for every NP entry and insufficient human resources to operate in all the checkpoints. This payment structure nonetheless resembles PES for scenic beauty, where the tourists (the buyer) pay the NP (the seller) for protecting and preserving the natural features inside the park (scenic beauty).

Groups of local communities in the Reserve

This Section classifies households and local communities into groups based on their rights in land and ecosystem services. Households within the same community generally share similar pattern of rights in land and ecosystem services. However, in a few local communities, there is a variety of rights in land among the households.

Groups based on rights in land

Households and local communities inside the Reserve can be classified into four main groups based on their rights in land.

- Group 1 refers to households or local communities with clear and secure rights in land. They have title deeds providing proprietary rights in land, according to the LCP Act. Title deed is the supreme form of title documents in Thailand. It offers the holder with tenure security and rights to access, use, manage, alienate and prevent other competitive use of land (DoL 2008). The first group is commonly located in the area removed from the NRF or NP designation or the area outside the State-owned forestlands boundary within the Reserve.
- Group 2 refers to households or local communities with less secure rights in land, holding various forms of title documents: Nor Sor 3, Sor Kor 1, Nor Sor 2 and STK. Except for STK, other title documents are issued by the Land Office and can be upgraded to title deed (DoL 2008).

None of the title documents provides full proprietary rights to land, like title deed does. Also, they are weaker in terms of security, i.e. for a title deed holder to lose his/her rights in land, it takes 10 consecutive years of leaving the land unused or of uninterrupted occupation by a squatter; for a Nor Sor 3 holder, it takes 5 years to lose his/her rights to the State and one year of uninterrupted occupation by a squatter (DoL 2008). Furthermore, the title document can be particularly weak in the case that the information registered on the document does not match with reality of the land location and the actual title document holder. Incidences of “flying title document” – the document was issued to another piece of land in a different location – have been reported in the Reserve area under Mae Rim jurisdiction. In a few cases, the title document holder in the Reserve is not the rightful holder, who was registered on the title document because the document was transferred many times by inheritance or sale without informing the authority. The second group generally consists of households that claimed their rights pursuant to the LCP Act in 1954 and in the process for an upgrade of the title document and households that reside inside the NRF area and received the title documents via the STK program of the RFD.

- Group 3 refers to households or local communities with clear and secure rights to residential land but insecure rights to agricultural land. This group has title deed for residential land but does not have any title document for agricultural land. To date, as a result of RoSLC, they are allowed to use their agricultural land but it cannot be used not for building houses for residential purpose. They can also unofficially transfer the land by inheritance, as long as they do not encroach further into the NP or NRF. The third group primarily resides in the area, where some parts of the village are removed from the NRF or NP and other parts remain inside the NRF or NP.
- Group 4 refers to households or local communities with unclear and insecure rights in land, in other words without any title document. As a result of RoSLC enacted in 1998, they are temporarily allowed to use land and natural resources. The fourth group generally shares tenure insecurity in forms of fear of relocation and uncertainty in their ability to prevent competitive use of their land. The fourth group chiefly resides inside the NP area.

Groups based on rights in ecosystem services

Unlike the rights in land, local communities in the Reserve tend to share the same pattern of ownership and use rights in ecosystem services. Despite insufficient legal framework to clearly specify the rights in ecosystem services as well as payments generated from them, the local communities have used, managed and economically benefited from the payments made for ecosystem services within their lands and surrounding areas. Two examples are provided:

The first example involves watershed services in form of mountain water supply. Some local communities in the Reserve have relied on mountain water supply for household consumption and agriculture for generations (Box 1). The present mountain water supply system uses aqueducts, funded by the TAO and operated by the villagers, to direct water from the watershed area to the village. While there is no fee for the water consumption in some villages, there are fees in other villages. Many villages set up rules and regulations to prevent contamination in the watershed area. Until present, local communities located inside the NP or NRF area have been the dominant actors in managing and protecting mountain water supply inside the NP or NRF, with some support from the DNP, RFD and other local government organizations.

Box 1: Mountain water management system in Mae Ha Nue village

Since the foundation of Mae Ha Nue village over a hundred years ago, the villagers set up a mountain water system, using bamboo pipes directing the mountain water to the village. In recent years, the bamboo pipes were replaced with PVC pipes that were funded by the TAO and the water users: resorts, holiday homes and villagers in the downstream area. Two village members were elected to be responsible for safeguarding mountain water quality and constant flow of water and for maintaining the pipes. Every month, each household in the village pays 20 THB, whereas each holiday homeowner pays up to 200 THB to the two village members responsible for the mountain water services. As for about 20 resorts downstream, they invested in their own pipes for mountain water and do not pay any fee for the water use. For drinking water, with the support from the Government Project on Sufficiency Community Project in 2009, the villages in Baan Pong Sub-district are equipped with vending machine for filtered mountain water at 5 THB per 20 liter.

The second example relates to scenic beauty. Some villages in the NP area of the Reserve have enjoyed the payment for scenic beauty via the creation of local tourism business. In recent years, some villages built small hotels and started homestay services inside

their village to accommodate tourists, who wish to enjoy the beautiful landscape and picturesque scenery of the village and its surrounding area. The revenues gained from tourism business go to the villagers, encouraging them to continue protecting the environment and its scenic beauty (Box 2).

Box 2: Cherry Blossoms at Khun Chang Kien village

From December to January every year, a great number of tourists heads to the Hmong village of Khun Chang Kien to enjoy cool breeze, beautiful landscape and the blossoming of Thai Cherry Blossom. The Cherry Blossom trees are one of the major attractions of the village. The villagers planted them, with the support from HRTC. The Village Headman also initiated a competition to reward the best grower of Cherry Blossom trees in the village, generating incentives to grow more Cherry Blossom trees in order to enhance the scenic beauty of the village landscape further. This popularity of Cherry Blossom has led to traffic congestion in the steep and narrow road to the village in recent years. The village is located on Mount Suthep at an elevation of approximately 1,300 meters above sea level. The village offers home-stay services, tourist accommodation, freshly grounded coffee shop, souvenir shop and traditional Hmong restaurant in the village. Income gained from the services goes directly to the villagers. Similarly, the HRTC of Chiang Mai University, which is located next to the village, also offers accommodation for tourists and coffee shop and the income goes back to the University of Chiang Mai.

Chapter 3 Challenges in PES implementation

This Chapter describes the criteria for evaluating legal readiness and preparedness for PES implementation. Using the proposed criteria, the challenges for PES implementation within the current legal context are identified. The Chapter also presents possible impacts of the PES in light of the challenges and ends with policy suggestions.

Policy evaluation criteria

This Section outlines the criteria for assessing existing policies and legislations whether fundamental conditions for PES implementation are in place. The proposed criteria comprises of essential aspects required for enabling PES transaction (Figure 1).

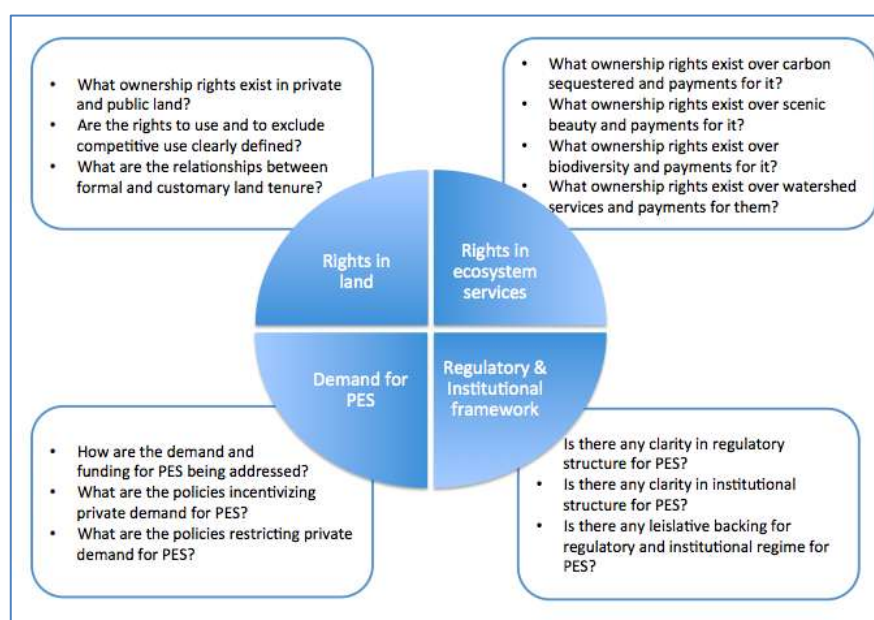


Figure 1: Policy evaluation criteria for assessing legal readiness for PES implementation

Rights in land

Existing legal framework should clearly defined land rights in private and public land or at minimum the rights to use and to prevent incompatible uses of the land. Contradiction between formal and customary tenure within the present legal framework should also be assessed, since it can create land conflicts and weaken tenure security to both formal and customary landowners. Landowners or land users with unclear and insecure tenure rights in land are not be able to assure that the project activities will continue as promised, creating risks for PES transaction.

Rights in ecosystem service

Prevailing policies and legislations should clearly define rights in ecosystem services and rights in economic benefits derived from the services. When the object of PES contract is an ecosystem service, as opposed to land management practice, the sellers should have rights in ecosystem services and payments derived from them. Landowners with unclear and insecure rights in ecosystem services increase risks of project failure for long-term PES agreements.

Demand for PES

The present legal framework should embody policies and measures to stimulate demand from all of the potential buyers, such as public entities, NGOs, donors, individuals, with special attention on private companies in a long term. Policies restricting private demand for PES should be identified. When too few ecosystem service beneficiaries exhibit demand, it can obstruct an effective PES implementation by undermining sustainable financing and hence the long-term success of the PES scheme.

Regulatory and institutional framework

Policies and legislations should provide legal support to enable PES transaction. At minimum, they should outline the types of ecosystem services accepted, length of the project activity, eligible participants and compliance requirements. Moreover, the existing legal framework should provide necessary resources and support for PES implementation. The absence of regulatory and institutional regime is a barrier to PES implementation. Such absence increases risk, uncertainty and transaction costs for both buyers and sellers.

Limiting issues in PES implementation in the Reserve

Based on the assessment of existing legal framework in accordance with the proposed policy evaluation criteria, this Section reveals the challenges for PES implementation in the Reserve.

Unclear and insecure rights in land

In the Reserve, among the groups of households and local communities classified by their rights in land, the groups with potential difficulty to identify PES seller are the third and fourth groups that do not have any title document of their agricultural land on which the land management practice PES would take place. For these groups, the State is the landowner with formal rights to use, manage and exclude illegal squatters. In practice however there are local communities with no title documents that have been cultivating and managing the land, to some of them, for generations. On the one hand, inability of the State to completely prevent the illegal squatters from using and managing the land inside the NP or NRF represents a major barrier to PES implementation with the State as the only seller. On the other hand, these groups of local communities or households inside the Reserve (Group 3 and 4) with no title document securing the rights in land of the potential PES project area have insufficient land rights to guarantee that the PES project will continue as promised. Unless the rights in land are clarified and secured to one of the parties or a co-management with land rights sharing between the State and local communities is formalized, the PES implementation in such area of the Reserve would incur high risk of long-term environmental services agreements to buyers.

Unclear and insecure rights in ecosystem services

Except for Sections in the PVP Act, the WPP Act, the NP Act and the pending Water Resources Act, other existing policies and legislations in Thailand do not provide clarity about the rights in ecosystem services and in economic benefits derived from them. Although the legal framework that establishes rights in ecosystem services and payments for them may not be a prerequisite for pilot PES activity, its absence would be felt more at the expansion stage, as well as, in some cases, reducing the prices that buyers are willing to pay.

Limited policy support to stimulate demand for PES

Due to the limited policy support to stimulate demand for PES, some potential PES buyers in the Reserve are not sufficiently convinced to pay for conserving the ecosystem services, the

unwillingness to pay of the resorts in Ban Pong Sub-district for watershed services that they benefit from, for instance. Such instance reveals the presence of market failure. The market failure observed in the Reserve occurs in the setting where conservation of a single area of ecosystem importance improve the services for more than two beneficiaries, e.g. protection of an area with hydrologic importance improves water supplies in two or more downstream communities. While some beneficiaries are willing to pay to protect the ecosystem, other beneficiaries are not and count on other beneficiaries to finance the protection instead. Potentially, the unwillingness to pay is due to the lack of scientific information on the linkages between the PES-financed activities and the effect on ecosystem services, high risk or transaction costs of PES scheme or high incentive to free ride. Pilot projects and policy support have potential to generate additional demand for PES.

Inadequate regulatory and institutional regime for PES

Policies and legislations that prescribe the uniform regulatory guidelines for PES remain inadequate. Without the guidelines, there is no clarity on the following: acceptable types of ecosystem services under the scheme, project duration, eligibility criteria of participants and compliance requirements. Also, an institutional arrangement to support the PES design, implementation and operation, such as technical and business advisory services to buyers and sellers, market information services, monitoring and enforcing the contracts, remains unidentified. Regulatory and institutional regime for PES needs to be developed to enable beneficiaries of ecosystem services to finance the protection of ecosystem in efficient ways that minimize transaction costs and provide meaningful incentives to service providers and investors in the services.

Possible impacts of PES implementation in the Reserve

If PES were implemented in the Reserve under current circumstances, potential impacts on households and local communities would vary depending largely on their tenure security. As illustrated in [Figure 2](#), where tenure of the land providing ecosystem services is clear and secured, i.e. land users with title deed, the land users are likely to benefit from the PES. They shall receive an additional income from PES, increased profitability of more sustainable land use practices and potentially public health benefits from improved quality of environmental services, such as air and water.

Where tenure security of the land on which PES activities would take place is weak, i.e. with title documents (Group 2) or insecure, without any title document (Group 3 and 4), the ultimate outcomes of PES are uncertain: the PES could improve or worsen tenure security and access to land and ecosystem services. On the one hand, PES may incentivize the government to improve tenure security for the land users by upgrading or issuing title deeds to eligible households with title documents or formalizing land use rights for households without any title document. On the other hand, opportunistic investors may forcibly or unfairly appropriating the land with increased value due to the PES scheme, hence limiting their access to land and ecosystem services of the land users. This may undermine the land users' sustainable use and conservation efforts and exacerbating the conflicts over resources, which may revert to unsustainable or illegal land uses to generate revenues. Also, it could contribute to social conflicts over resources, which could negatively impact the permanence of the project and could increase reputational risks to potential buyers of being associated with projects perceived as having adverse social costs.

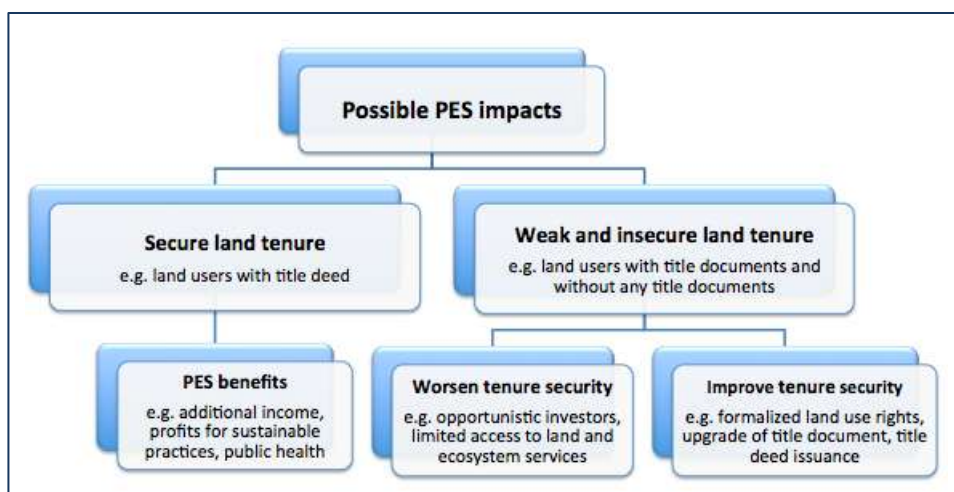


Figure 2: Possible impacts of PES implementation in the Reserve

Policy options

This Section provides policy options to mitigate potential adverse impacts by creating an enabling legislative framework for PES implementation in the Reserve.

Clear and secure rights in land

To enable PES implementation in the NP and NRF area of the Reserve with unclear and insecure rights in agricultural land (Group 3 and 4), the government can assist by formalizing communal land-use and exclusion rights, while the ownership of the forestland remains with the State. The granting of communal land-use rights is a more politically acceptable option among local communities and DNP/RFD officials, compared to individual title deed for several reasons: the local communities in the Reserve, in general, do not demand for individual title deeds. Instead, they desire for an increased security in their rights to use land and to exclude competitive users. The communal land-use rights can fulfill such desire. To the officials, conditionality of communal rights in combined with ownership rights that remain with the State can prevent undesirable activities that are considered harmful to the environment, such as expansion of land-use area into the forests and the cycle of selling land to investors and opening new forestlands.

To formalize the communal land-use rights, the active implementation of the RoCLTD and the re-introduction of the Community Forest Act with some modification to the draft that was passed in 2008 can serve as a policy option. For the RoCLTD, the term ‘Community Land Title Deed’ should be replaced with the more precise and politically acceptable term as ‘Communal Use Rights in State-owned land.’ For the Community Forest Act, Sections of the Draft that constrain the rights of local communities and their potential role in forest management should be revised. Also, insufficient check and balance system as prescribed by the passed Draft should be improved by assigning various rights related to community forest to different actors, i.e. the State has the ownership rights; the community has management and preservation rights; and independent organizations have monitoring rights (Prachatai 2007). Additionally, existing legal framework should be streamlined to avoid conflicts when formalizing communal land-use rights in public forestlands. For example, Section 16 of the NRF Act and Section 19 of the NP Act should be amended to allow communities with communal rights to reside in, use and manage the land. Moreover, Sections related to the use of natural resources inside the NP and NRF should be revised to match with the activities informally accepted by local DNP and RFD officials, aligning the Acts with local livelihoods.

Also, an additional Section should be added to the LCP Act regarding the issuance of communal rights for land inside the State-owned forestlands. The Section should also describe eligibility criteria, application procedures, rights and limitations of the holder and conditions leading to the annulment of communal rights. Alternatively, PES scheme itself can provide communal rights to the participating communities, as a non-monetary reward for securing environmental service. Nonetheless, doing so also requires national legislative backing.

To strengthen tenure security for the households with eligible title documents other than title deed (Group 2), the upgrading of title document and the issuance of title deed should be expedited by: (1) reactivating the Reshape Mapping project, which aims to create a consistent State-owned forestland boundary to be used among the involved entities; (2) establishing a common policy and institutional framework for land management and administration to enhance coordination and effective land information-sharing among relevant agencies; (3) allocating more budget to the presently understaffed land surveying services to mark forest boundaries and to ensure that the field land surveyors are adequately rewarded, thus avoiding the need for them to seek informal reward system; (4) setting feasible targets in terms of area covered such as the Reserve, since the focus on area target instead of number of titling will provide the titling agencies with an informed decision about whether to conduct a second sweep of systematic adjudication; and (5) reviewing existing manual procedures for land upgrading to simplify and streamline where appropriate. These efforts should be realized at a local level, with strong collaboration among the DNP office District 16, the RFD Bureau Number 1 and Land Offices of Chiang Mai Province, Hang Dong District and Mae Rim District.

Clear and secure rights in ecosystem services

Even though the PVP Act, the WPP Act, the NP Act and the pending Water Resources Act, to a certain extent, can provide support for the establishment of rights in ecosystem services and return payments for them, a national legislation to bring clarity over the legal nature of ecosystem services and their benefits in a harmonious manner to the PES concept remains needed.

In light of unclear rights in ecosystem services, a feasible alternative to develop PES in the Reserve is to focus on land use management practices, instead of ecosystem services themselves, as the object of the PES contract. Such alternative however has limitations, since the land-based activities also require clear rights in land, which by and large remain unclear in State-owned forestland of the Reserve. In such case, the PES seller may well be the Director-General of the DNP or RFD, who has the management rights and overall responsibility in the NP and NRF respectively by law. The DNP/RFD then subcontracts local communities for performing ecosystem protection activities, as part of land and natural resources management activities of the NP or NRF.

Demand and funding for PES

Demand and funding for PES can arise from private companies, public entities, NGO, donors, individuals or a mixture of them. During the initial stages of PES development, donor and public funding can play a fundamental role in supporting the creation of an enabling legal framework and in strengthening institutional capacity for PES scheme. A portion of public funding for PES may be acquired from the Environmental Fund, created by the Enhancement and Conservation of the National Environmental Quality Act for supporting environmental quality conservation activities with particular focus on wastewater management and air pollution control. In the long run, private sector usually has the largest potential for developing and expanding the markets for PES. Companies related to hydroelectric,

pharmaceutical, travel agency, resorts, utilities and water bottling are examples of potential PES buyers.

Measures to stimulate PES demand from private sector within and beyond the Reserve boundary include:

- (1) Providing private companies with scientific evidences to create understanding of the relationship between land use and management practices and quality of ecosystem services;
- (2) Informing private companies of PES benefits to their businesses in short-term (e.g. improved relationships with regulators and communities and public relations opportunities), medium-term (e.g. improved quality of ecosystem services due to PES investment) and long-term (e.g. market differentiation from competitors as pro-active corporation committed in ecosystem service protection); and
- (3) Offering assistance and credible information to private sector in order to make informed choices in purchasing ecosystem services, particularly in the early stage of the PES scheme, where buyers need reliable information on potential suppliers, their location and types of ecosystem services provided.

Regulatory and institutional arrangement for PES

Efforts should be made to develop a national legislation to facilitate PES development in the Reserve. The legal framework should recognize PES as a legitimate instrument; establish clear rights in ecosystem services and benefits; formulate uniform regulatory guidelines specifying the rules of the game, sources of PES funding and payment distribution; and create local institutional arrangement for PES with sufficient institutional coordination as well as technical and human resources needed.

The PES Committee of the Reserve should be created with clearly defined responsible persons with specific duties and authorities. Separation of duties and authorities helps ensure that all specialists related to PES are involved and that a system of checks and balances is set up to prevent arbitrary decision-making. The functions of the Committee are divided between two groups of actors: intermediary and facilitator (Figure 3). Intermediary refers to a group of local representatives from various bodies, such as ecosystem service users association, ecosystem services seller association, local government authorities and NGOs, to ensure transparent operation. The long-standing institutional arrangement for managing the payments made for mountain water consumption in many villages inside the Reserve provides an enabling condition to build local PES Committee on, particularly for watershed services PES. Responsibilities of the intermediary include: monitoring compliance, enforcement of contracts, registries and financial management. To manage PES payments (Figure 4), a certain percentage of PES payments can be retained for the Committee's management costs and the remaining payment goes directly to the contracted seller, in the case of privately owned land. In the case of State-owned land, the official landowner (the State) can act as the secondary intermediary that subcontracts communities inside the State-owned land to perform ecosystem protection activities and keep a certain percentage of the PES payment. The remaining payment goes to the sub-contracted communities.

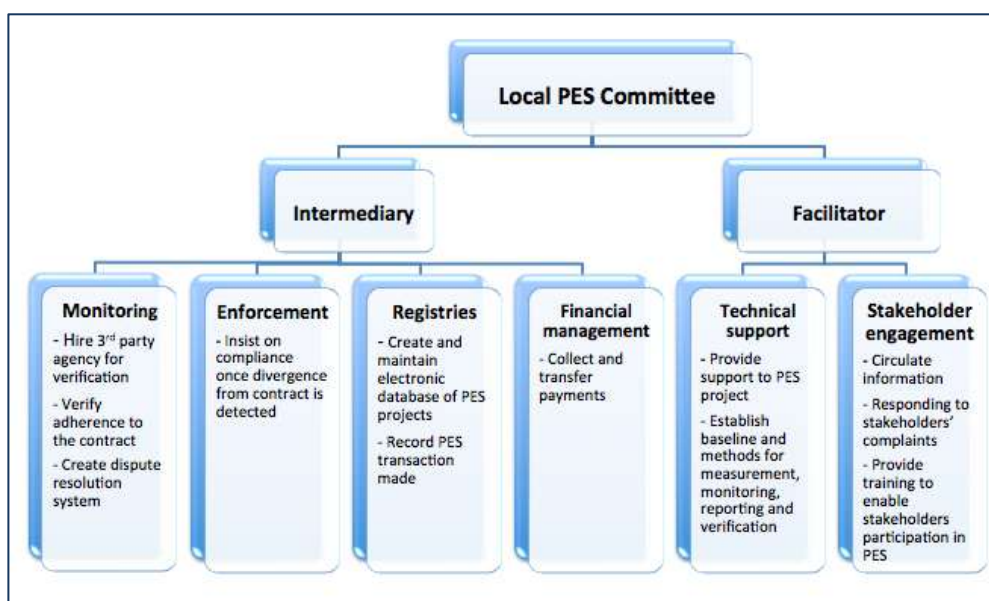


Figure 3: Institutional arrangement and functions of local PES Committee

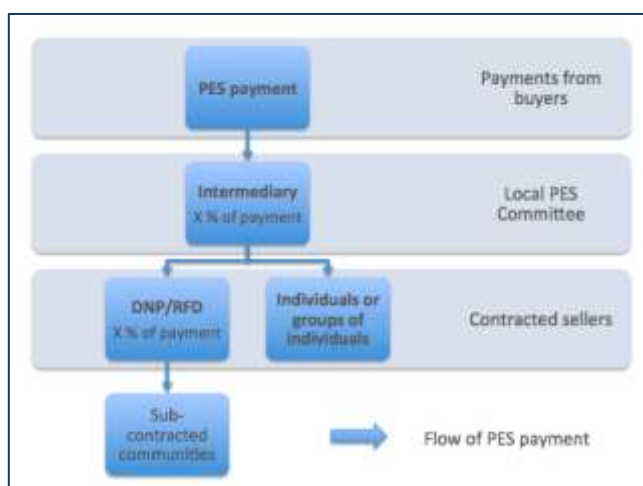


Figure 4: Distribution of PES payment

The facilitator comprises of institutions that have sufficient technical expertise in ecosystem services to fulfill technical support function and institutions that are trustworthy among local stakeholders to perform stakeholder engagement function. The facilitator should be chosen from existing institutions at the horizontal (between different ecosystem services-related sectors) and vertical (national to local) level to avoid conflicts of interest and jurisdiction as well as to achieve synergies. For example, local organizations with long and close cooperation with the local communities, such as Chiang Mai University and the Royal Project Foundation, can provide the support for stakeholder engagement. The technical support for PES can be obtained from collaboration with Thailand Greenhouse Gas Organization (carbon sequestration), Queen Sirikit Botanical Garden, Biodiversity-based Economy Development Organization and/or Plant Varieties Protection Division of the Ministry of Agriculture and Cooperatives (biodiversity conservation), Royal Project and/or Pollution Control Department of the MNRE (watershed services). If necessary, new institutions can be created to address institutional gaps, thereby ensuring efficiency and effectiveness in PES implementation. In a long-term, the Committee should be established on a permanent basis, to assure that technical skills and institutional memory are not lost and would support continuity of the PES implementation.

Chapter 4 Conclusions and policy suggestions

Clearly defined rights in land and ecosystem services are one of the significant enabling conditions for parties to enter into PES project. A number of policies and legislations is found relevant PES implementation in Northern Thailand. An assessment of the relevant legal framework reveals a number of challenges for PES implementation in the Reserve, they are:

- *Unclear and insecure rights* in land on which land management practices PES would take place make it difficult to identify the PES seller, who has sufficient rights to use and to exclude incompatible uses of the project area for the duration of project activity.
- *Unclear rights in ecosystem services and payments for them* can be problematic, when the objective of PES contract is an ecosystem service, as opposed to land management practices. In such case, it is difficult to identify the PES seller with adequate rights to guarantee the continuation of the project.
- *Insufficient policy support to enhance willingness to pay* for ecosystem services can threaten the financial sustainability and hence the long-term success of the PES implementation in the Reserve.
- *Inadequate regulatory and institutional regime for PES* can generate high risk, uncertainty and transaction costs for both buyers and sellers.

In light of these challenges, key policy suggestions to support PES implementation in the Reserve are provided. Recognizing the difficulty and time-consuming process of the legislative reform to address the existing challenges, concrete steps to implement pilot PES project in the interim are offered:

- *The objective of pilot PES project* should focus on land management activities that affect the services rather than ecosystem services themselves, in light of unclear rights in ecosystem services and payments for them.
- *Land users with clear and secure rights in land*, such as those households with title deed inside the Reserve (Group 1), should be identified as PES sellers in order to avoid potential tenure conflicts. Implementing a pilot PES in area of the Reserve, where land rights of households or local communities are unclear (Group 3 and 4), is nonetheless possible. In such land, the Director-General of the DNP or RFD can act as the PES seller, who sub-contracts to the local communities to perform land management activities. The PES activity shall be regarded as part of management activities inside the NP or NRF, in accordance with the NP and NRF Acts.
- *Demand and funding at a pilot scale* should be identified principally from but not limited to donors and public sources. Besides the pilot project, the financial support received during the initial stages of PES development should also be spent on creating supportive legal framework and strengthening institutional capacity for PES.
- *Research on economic valuation of ecosystem services and on impacts of PES activities* on ecosystem services, namely the pilot project, should be funded. The research is expected to enhance the willingness to pay among potential buyers from private sector.
- *Regulatory guidelines governing the PES project* should be formulated and clearly specified in the contract. The PES contract should include indicators of performance, terms, type and timing of payments, MRV procedures and signatories to the contracts, at minimum.
- *PES support team* comprising of experts with technical expertise and institutions that are trustworthy among local stakeholders should be created to support the pilot project. The

PES project implementer should engage in a memorandum of understanding or contract with the support team members, to secure the needed support during the project activity.

To create an enabling legal framework for long-term PES implementation in the Reserve, policy options for legislative reforms are detailed as the following:

- *Communal land-use rights* for households without title document in their agricultural land (Group 3 and 4) should be formalized in order to clarify the unclear rights in land. Policy options for the formalization include: (1) the active implementation of RoCLTD and the re-introduction of the Community Forest Act with amendments to the NP Act, the NRF Act and the LCP Act; and (2) the use of PES scheme itself as means to provide communal land rights as non-monetary reward for communities that successfully protect environmental services for a certain period of time.
- *The procedures for upgrading and issuing title deed* should be expedited to enhance tenure security for households with eligible title documents. Policy options for the expedition include: re-activating the Reshape mapping project; enhancing coordination among relevant organizations; increasing budgetary support for land surveying department; defining target area; and streamlining procedures for upgrading and issuing title deeds. The efforts to accelerate the procedures should be achieved with strong collaboration among local DNP, RFD and Land offices.
- *Measures to induce private demand* should be introduced. They are: providing scientific evidences of PES benefits to the ecosystem; raising awareness of business benefits from PES investment in short, medium and long-term; and assisting private sector with credible information on potential suppliers and types of projects.
- *A national legislation to support PES development* should be introduced in order to establish clear rights in ecosystem services and benefits; recognize PES as a legitimate instrument; formulate regulatory guidelines for PES projects, national priority, funding sources and payment distribution; and create local institutional arrangement for PES with sufficient institutional coordination as well as technical and human resources needed. Supported by the legislation, the local PES Committee of the Reserve should be created to perform necessary functions, such as monitoring, enforcement, registries, financial management, technical support and stakeholder engagement. The institutional structure should be built on existing institutional framework, e.g. local institutional arrangement for mountain water services and payments in order to gain local acceptance and synergy. In a long-term, the Committee should be established on a permanent basis, to ensure that technical skills and institutional memory are not lost and would support continuity of the PES implementation.

References

- ALRO (2012). Summary of 2011 achievement of Agricultural Land Reform Office. Bangkok, Thailand, Agricultural Land Reform Office (ALRO).
- Amyot, J. (1998). "Forest Land For People: A forestry village project in Northeast Thailand." *Unasylva* **40**(159).
- BangkokPost (2008). Flaws in the Forestry Bill. *Bangkok Post*. Bangkok, Thailand, Bangkok Post.
- Bowman, C. (2004). Thailand Land Titling Project. *Scaling Up Poverty Reduction: A global learning process and conference*. Shanghai, China, AusAid.
- DNP (2008). "DNP Statistics of B.E.2551." Retrieved 26 July, 2012, from <http://www.dnp.go.th/statistics/2551/stat2551.asp>.
- DNP (2009). Forest Land Resource Management Project. S. Raktin. Chiang Mai, Thailand, Department of National Parks, Wildlife and Plant Conservation (DNP): 122.
- DNP (2010). "Watershed Classification." Retrieved 10 June, 2012, from <http://www.dnp.go.th/watershed/class.htm>.
- DoL (2008). "Title Documents in Thailand (in Thai)." Retrieved 13 July, 2012, from http://www.dol.go.th/dol/index.php?option=com_content&task=view&id=265&Itemid=55.
- Equitech (2010). Development of REDD model sites in Thailand. Bangkok, Thailand, Food and Agriculture Organization (FAO) of the United Nations: 66.
- Erni, C. (2010, May 21). "Community Land Title Law Passed in Thailand." *News*. Retrieved 3 March, 2012, from http://www.iwgia.org/news/search-news?news_id=128.
- GoT (1954). Act Promulgating the Land Code B.E. 2497. Bangkok, Thailand, Government of Thailand (GoT).
- GoT (1989). Agricultural Land Reform Act B.E. 1976 (in Thai). G. o. Thailand.
- GoT (1992). Royal Decree on the Establishment of Botanical Garden Organization (in Thai). Bangkok, Thailand, Government of Thailand (GoT).
- GoT (1994). Tambon Council and Tambon Administrative Authority Act B.E. 2537 (in Thai). Bangkok, Thailand, Government of Thailand.
- GoT (1998). Cabinet Resolution of 30th June 1998 Measures and Solutions to Conflicts in Forested Area (in Thai). Bangkok, Thailand, Government of Thailand (GoT).

GoT (2002). Regulation of the Prime Minister's Office on Solutions to State-owned Land Encroachment B.E. 2545. O. o. t. P. Minister.

GoT (2007). Constitution of the Kingdom of Thailand B.E. 2550. Bangkok, Thailand, Government of Thailand (GoT).

NESDB (2006). The Tenth National Social and Economic Development Plan (2007-2011). Bangkok, Thailand, Office of National Economic and Social Development Board (NESDB).

NESDB (2011). The Eleventh National Economic and Social Development Plan (2012-2016). Bangkok, Thailand, Office of National Economic and Social Development Board (NESDB).

OPM (2011). Summary of performance of Community Title Deed as of 20 May 2012 (in Thai). Bangkok, Thailand, Office of the Prime Minister.

OPM (2012). Number of community applying for Community Title Deed as of 31 January 2012 (in Thai) Bangkok, Thailand, Office of the Prime Minister.

Prachatai (2007). "Anand Kanchanaphan: 18 years of Community Forest Law... eventually passed just to suppress rather than promote people's rights." Retrieved 7 July 2012, from <http://www.prachatai.com/english/node/398>.

Prasertpholkrang, J. (2011, 13 February). "Villagers Get Communal Land Title Deeds." The Nation on Sunday. Retrieved 3 March, 2012, from <http://www.nationmultimedia.com/2011/02/13/national/Villagers-get-communal-land-title-deeds-30148576.html>.

PRD (2010, 7 July). "Issuance of Community Land Title Deeds in an Effort to Push for Land Distribution." Retrieved 3 March, 2012, from http://thailand.prd.go.th/view_inside.php?id=5134.

PRD (2012). During the past 40 years, forest area in Chiang Mai province has decreased over 20% (in Thai). Chiang Mai, Thailand, The Government Public Relations Department (PRD) Region 3 Chiang Mai.

RFD (2008). "Land Allocation Programme of Sor Tor Kor (in Thai)." Retrieved 12 July, 2012, from http://www.frm7.com/v.2/landforest/ld_sitti/stk.htm.

RFD (2010). Forestry Statistical Data 2553* 2010. Forestry Statistical Data. Bangkok, Thailand, Royal Forest Department.

Scheyvens, H. (2011). A Critical Review of Selected Forest-related Regulatory Initiatives: Applying a rights perspective. Forest Conservation Project. Kanagawa, Japan, Institute for Global Environmental Strategies (IGES).

Thairath (2012). Watershed reforestation: Don't be a hypocrite! (in Thai). Thairath
Bangkok, Thailand, Thairath

UN (2008). "Thailand Info." Retrieved 17 March, 2012, from
<http://www.un.or.th/thailand/geography.html>.

Weatherby, M. and S. Soonthornwong (2008). "The Thailand Community Forest Bill."
Rights and Tenure in the News. Retrieved 26 February, 2012, from
<http://www.rightsandresources.org/blog.php?id=34>.

Zurcher, S. (2005). "Public Participation in Community Forest Policy in Thailand: The
influence of academics as brokers." Danish Journal of Geography **105**(1): 77-88.

Appendices

Appendix 1 List of interviewees

Number	Name	Organization
Policy implementer		
1	Amphorn Parnmongkol	Suthep-Pui National Park
2	Chaowit Chomketkaew	DNP District 16
3	Charnwit Puangchan	Land Office of Chiang Mai province
4	Niwet Liamphan	Watershed Management Unit of Huay Pa Lao
5	Phnom Jaikew	Suthep-Pui National Park
6	Ratana Buranasingh	Land Office of Hang Dong district
7	Wichian Nantasinghareuk	Land Office of Mae Rim district
8	Witit Udomruk	Watershed Management Unit of Mae Na Sai
Public and private organization in the Reserve		
9	Bunrongsak Sainoi	Royal Project Mae Sa Mai
10	Panatchkorn Sithi	Aura Mineral Water Company
11	Pavinee Kumpetch	Queen Sirikit Botanical Garden
12	Samutai Na Pattalung	Department of Army Animal
13	Sa-nga Ertrakul	Night Safari
14	Somkid Utrasien	Royal Project Foundation Tung Reong office
15	Srinual Meejina	Highland Research and Training Center Khun Chang Kien office
Organizations outside the Reserve that has relevance to the identified legal framework		
16	Jirasak Keeratikunakorn	Plant Variety Protection Division
17	Kosol Pratumchat	Army Troop 33
Sub-district organization in the Reserve		
18	Kaew Mon-ut	Kamnan of Pong Yeang Sub-district
19	Prasert Inta	Kamnan of Baan Pong Sub-district
20	Teerasak Thippintong	TAO of Pong Yeang Sub-district
21	Wirat Yungyoenkul	TAO of Chang Pheuk Sub-district
Village leader of local communities in the Reserve		
22	Akajit Sirikutto	Abbot of Khun Chang Kien Monastery
23	Direk Jirachawalvisut	Headmaster of Chao Poh Luang 7 School (Mae Sa Mai village)
24	Duangdee	Abbot of Prachakasem temple (Mae Ha Nue village)
25	Inta Chaiya	Village Head of Mae Ha Nue village
26	Jumpol Yungyoenkul	Village Head of Khun Chang Kien village
27	Pitak Mekhala	Deputy Headmaster of Sri Neruh School (Khun Chang Kien village)
28	Taweesak Kornjirantikan	Deputy Village Head of Mae Sa Noi village
29	Vichai Pusiripattanon	Village Head of Mae Sa Noi village

Appendix 2 List of questions for the interviews

For government organizations

1. What are the roles and responsibilities of the organization in relation to the Reserve?
2. Has the organization implemented any policy or legislation that involves rights in land and ecosystem services?
 - If yes, what are they and how do they address the rights in land and ecosystem services?
3. What are the impacts of the implementation of the identified policies and legislations on local communities?
4. What are the major obstacles to enforcing the identified policies and legislations in the Reserve?
5. What are the major obstacles to fulfilling your responsibilities in the Reserve?

For public and private organizations in the Reserve

1. What is the mission of the organization in relation to the Reserve?
2. Does the organization have ownership rights in the land?
 - If yes, how did the organization obtain the ownership rights? What kind of title documents does it have?
 - If no, how did the organization obtain the rights to use land? Who owns the land? Can the organization modify or manage the land without permission of the landowner?
3. Does the organization have ownership rights in ecosystem services in the land?
 - If yes, can the organization sell ecosystem services in the land? Can the organization keep the revenues gained from the sale?
 - If no, how did the organization obtain the rights to use ecosystem services in the land? Can the organization modify or manage the natural resources without permission of the landowner?

For village leaders and local communities

1. What are the primary policies and legislations that govern the rights in land and ecosystem services of the local community?
2. How do the identified policies and legislations affect local communities' livelihoods? Please compare situation before and after the implementation of the laws.
3. How do the identified policies and legislations affect customary tenure of local community?
4. How do the identified policies and legislations affect the rights to occupy land of local community?
5. How do the identified policies and legislations affect land-use decision authority of local community?
6. How do the identified policies and legislations affect the rights to collect non-timber forest products of local community?
7. How do the identified policies and legislations affect the rights to log trees of local community?
8. How do the identified policies and legislations affect the rights to exclude incompatible uses of local community?
9. How do the identified policies and legislations affect the fear of eviction of local community?
10. How do the identified policies and legislations affect food security of local community?

11. Do they yield positive results in forest and natural resources condition in the area surrounding the community, e.g. number of trees, quality of ecosystem services provided by the forest?
12. Have they led to increased competition for land among the households or between local communities?
13. Have they led to increased competition for natural resources among the households or between local communities?
14. Do they contribute to infrastructure development of the community, e.g. water, electricity, telephone etc.?
15. Do they contribute to increased access for healthcare and education of the local community?